A New Phallus.

(Plate IV.)

During the month of October, last year, I found, growing in a somewhat shady, grassy spot in the vicinity of Bethlehem, a group of three large specimens of a *Phallus* having a rather unusual appearance. Owing to the perishable nature of these fungi and the unsatisfactory method of preparing them for herbarium specimens, I determined to retain their important characters by means of a photograph. Accordingly a negative was taken of an entire specimen, representing the external appearance, and, by its side, a longitudinal section of another; the resulting photograph was very satisfactory, being five-sevenths of the size of the specimens.[1] In order to have the species identified I sent photographs with notes to our leading American mycologists, who were finally unanimous in pronouncing it most nearly allied to *Phallus Dæmonum*, Rumph., yet were doubtful whether it was identical with that species. In order to arrive at a satisfactory conclusion, I sent a photograph to Rev. C. Kalchbrenner, Hungary, who, in reply, stated that the very ample trumpet-shaped veil and small meshes are characters of sufficient importance to distinguish it as a new species, though he also recommended further careful examination of living specimens, in order more accurately to determine the distinctive characters of the species. The plants had a very disagreeable odor, equally as offensive as *P. impudicus*, Linn., which also occurs here. The spores are oval 1.5-2x3-4 mm. It differs from *P. indusiatus*, Schl., in having smaller meshes to the veil, besides that species is said to be odorless. I herewith present the diagnosis of the new species as drawn up by Rev. C. Kalchbrenner:

Phallus (Hymenophallus) togatus, Kalchbrenner, n. sp. Volva crassa, subglobosa basi parumper applanata radiculis quibusdam laxe anastomosantibus aucta, superne in lobos irregulares rumpens, flava. Stipes subventricoso-cylindricus, apicem versus attenuatus, 5 6 poll. longus, pollicem crassus interstitiis irregulariter sparsis lacunosus, albus. Velum tubæforme ultra medium pedunculis dependens (conicum i. e. lateribus in limbo extrorsum curvatis) margine integerrimo interstitiis parvis, subrotundis, album. Pileo ovato-acuminato, anguste parvio, margine membrana plicatula adpressa aucta profunde scrobiculato-reticulato,

[1] The figures of the plate are the same size as those of the photograph.

olivaceo.—In locis graminosis, circa Lehigh University, Bethlehem, Pa. E. A. Rau, Oct. 24, 1882.

The photographs of this new *Phallus* were made by Dr. C. L. Lochman, Bethlehem, who has for several years past made excellent photographs of a number of the most important indigenous and exotic medicinal plants.—EUGENE A. RAU, *Bethlehem, Pa.*

Notes on Fresh-Water Algæ.

In relation to species of Algæ which produce what the Germans call "wasser-blüthe," or, in less poetical English, a scum on the surface of bodies of water which serve as water-supplies, there has of late been felt a great interest on the part of the public, and in this connection I would call attention to some interesting forms found in Minnesota last summer by Prof. J. C. Arthur. The two scum plants, so common in the Eastern States, *Clathrocystis æruginosa*, Henfrey, and *Cœlosphærium Kuetzingianum*, Näg , appear to be also common in the West and were found by Prof. Arthur in Lake Satakah and Lake Tetonka, at Waterville, Minn.; and the first-named species was also found by Prof. Wm. Trelease in Lake Mendota, Wis. Consequently, as the West becomes more thickly settled we may expect to hear of the same disagreeable pig-pen odor which is found in Eastern water-supplies during hot summers.

Prof. Arthur also detected an interesting alga floating on Lake Tetonka, Waterville, and Lake Phalen, near St. Paul, which has not as yet been found in Eastern water-supplies. The alga in question resembles *Rivularia atra*, Roth, but is of softer consistency and the filaments have a different micrometric measurement. The species of *Rivularia* grow attached to other plants, sticks, stones, etc., and although they at length become free, they are then found resting loosely on the bottom and not forming a scum on the surface of the water. In *Hedwigia*, Jan., 1878, Cohn described a *Rivularia* which he called *R. fluitans*, which formed a "wasser-blüthe" on the river Leba, near Lauenberg, in Pomerania; and in *Hedwigia*, March, 1878, Gohi mentioned the occurence of a similar *Rivularia* at Udrias, on the Gulf of Finland, to which he gave the name of *R. flos-aquæ;* but in *Hedwigia*, April, 1878, he stated that his plant was of the same species as that of Cohn. The *Rivularia* collected by Prof. Arthur in all essential respects seemed to me to be the same species